Applicant: Tirhothy J. Brosnihan et al Attorney's Docket No.: 07043-060002 / B97-065-2

Serial No.: 09/342,348

Filed : June 29, 1999

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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of fabricating a microelectromechanical system, comprising:

providing a substrate having a device layer, a handle layer and a sacrificial layer between the device layer and the handle layer;

etching a first trench in the device layer, the first trench surrounding a first region of the substrate;

depositing a dielectric isolation layer in the first trench to form an isolation trench that electrically isolates the first region from a second region of the substrate; and

etching a second trench in the device layer, the second trench located in the first region and defining a microstructure including a plurality of elements <u>laterally</u> anchored to the isolation trench such that the isolation trench provides electrical isolation for the anchored elements of the microstructure from each other; and

removing a portion of the sacrificial layer, wherein the removed portion entirely undercuts the plurality of laterally anchored elements.

- 2. (Currently Amended) The method of claim 31[[1]] further comprising forming circuitry in the second region of the substrate outside the first region.
- 3. (Original) The method of claim 2 further comprising depositing an electrical connection over the first trench to connect the microstructure to the circuitry.

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4. (Original) The method of claim 1 further comprising depositing a filler material over the isolation layer in the first trench.

- 5. (Original) The method of claim 1 wherein the isolation layer fills the first trench.
- 6. (Cancelled)
- 7. (Currently Amended) The method of claim [[6]] 1 wherein the method further emprises removing a portion of the sacrificial layer to includes releasing release the microstructure.
- 8. (Currently Amended) The method of claim [[7]] 1 wherein the step of etching the first trench etches through the device layer to expose the sacrificial layer.
- 9. (Currently Amended) The method of claim [[7]] 1 wherein the step of etching the second trench etches through the device layer to expose the sacrificial layer.
- 10. (Currently Amended) The method of claim [[6]] $\underline{1}$ wherein the sacrificial layer includes silicon dioxide.
- 11. (Original) The method of claim 1 wherein the device layer includes epitaxial silicon.
- 12. (Original) The method of claim 1 wherein the isolation layer includes silicon nitride.

Claims 13-22 Cancelled

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23. (Previously Presented) The method of claim 1, wherein the step of etching the second trench includes etching a portion of the device layer that abuts the isolation trench.

24. (Cancelled)

- 25. (Currently Amended) The method of claim [[24]] 1, wherein the step of etching the second trench includes forming at least one movable element and at least one generally immobile element.
- 26. (Original) The method of claim 1, wherein the step of etching the first trench comprises inductively coupled plasma etching.
- 27. (Original) The method of claim 1, wherein the step of etching the second trench comprises inductively coupled plasma etching.
- 28. (New) The method of claim 1, wherein the removed portion of the sacrificial layer at least partially undercuts the isolation trench.
- 29. (New) The method of claim 1, wherein the first trench surrounds a region of the substrate.
- 30. (New) The method of claim 1, wherein the first trench electrically isolates a first region of the substrate from a second region of the substrate.
- 31. (New) The method of claim 30, wherein the second trench is located in the first region.